(FILE 'HOME' ENTERED AT 15:12:48 ON 05 SEP 2003)

FILE 'ADISCTI, ADISINSIGHT, ADISNEWS, BIOSIS, BIOTECHNO, CANCERLIT, CAPLUS, CEN, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, EMBAL, EMBASE, ESBIOBASE, IFIPAT, IPA, JICST-EPLUS, KOSMET, LIFESCI, MEDICONF, MEDLINE, NAPRALERT, NLDB, NUTRACEUT, ...' ENTERED AT 15:21:48 ON 05 SEP 2003

| | 2003 | |
|-----|---------|--|
| L1 | 1035601 | S (MONONUCLEAR OR LEUKOCYTE) |
| L2 | 88578 | S L1 (P) (LYMPHOMA OR GRAFT OR ALLOGRAFT TRANSPLANTATION OR TR |
| L3 | 32685 | S L2 AND PD<2001 |
| L4 | 18013 | DUP REM L3 (14672 DUPLICATES REMOVED) |
| L5 | 29 | S L4 AND IMMUNE (W) DYSFUNCTION |
| L6 | 8 | S L5 AND (MONONUCLEAR (W) CELL) |
| L7 | 8 | S L6 AND (LYMPHOMA OR GRAFT OR ALLOGRAFT TRANSPLANTATION OR T |
| L8 | 158189 | S LEUKOCYTE/AB |
| L9 | 31251 | S LEUKOCYTE/TI AND L8 |
| L10 | 16908 | S L9 AND PD<2001 |
| L11 | 1399 | S L10 AND (LYMPHOMA OR GRAFT OR ALLOGRAFT TRANSPLANTATION OR T |
| L12 | 1065 | S L10 AND (LYMPHOMA OR GRAFT OR ALLOGRAFT TRANSPLANTATION OR T |
| L13 | 586 | DUP REM L12 (479 DUPLICATES REMOVED) . |
| L14 | 61 | S L13 AND (TRANSFUSION OR INFUSION) |
| L15 | 36 | S L14 AND BLOOD |
| | | |

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(FILE 'HOME' ENTERED AT 15:12:48 ON 05 SEP 2003)

FILE 'ADISCTI, ADISINSIGHT, ADISNEWS, BIOSIS, BIOTECHNO, CANCERLIT, CAPLUS, CEN, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, EMBAL, EMBASE, ESBIOBASE, IFIPAT, IPA, JICST-EPLUS, KOSMET, LIFESCI, MEDICONF, MEDLINE, NAPRALERT, NLDB, NUTRACEUT, ...' ENTERED AT 15:21:48 ON 05 SEP 2003

| L1 | 1035601 | S (MONONUCLEAR OR LEUKOCYTE) |
|-----|---------|--|
| L2 | 88578 | S L1 (P) (LYMPHOMA OR GRAFT OR ALLOGRAFT TRANSPLANTATION OR TR |
| L3 | 32685 | S L2 AND PD<2001 |
| L4 | 18013 | DUP REM L3 (14672 DUPLICATES REMOVED) |
| L5 | 29 | S L4 AND IMMUNE (W) DYSFUNCTION |
| L6 | 8 | S L5 AND (MONONUCLEAR (W) CELL) |
| L7 | 8 | S L6 AND (LYMPHOMA OR GRAFT OR ALLOGRAFT TRANSPLANTATION OR T |
| L8 | 158189 | S LEUKOCYTE/AB |
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| L11 | 1399 | S L10 AND (LYMPHOMA OR GRAFT OR ALLOGRAFT TRANSPLANTATION OR T |
| L12 | 1065 | S L10 AND (LYMPHOMA OR GRAFT OR ALLOGRAFT TRANSPLANTATION OR T |
| L13 | 586 | DUP REM L12 (479 DUPLICATES REMOVED) |
| L14 | 61 | S L13 AND (TRANSFUSION OR INFUSION) |
| L15 | 36 | S L14 AND BLOOD |
| L16 | 787 | S LEUKOCYTE (W) INFUSION |
| L17 | 160 | S L16 AND (LYMPHOMA OR ALLOGRAFT OR ERYTHEMATOSUS OR RHEUMATOI |
| L18 | 76 | DUP REM L17 (84 DUPLICATES REMOVED) |
| L19 | 26 | S L18 AND PD<2001 |
| L20 | 26 | S L19 NOT L15 |
| L21 | 116 | S L16 (P) (LYMPHOMA OR ALLOGRAFT OR ERYTHEMATOSUS OR RHEUMATOI |
| L22 | 33 | S L21 AND PD<2001 |
| | | |

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L15 ANSWER 1 OF 36 CAPLUS COPYRIGHT 2003 ACS on STN

TI Effect of leukocyte compatibility on neutrophil increment after transfusion of granulocyte colony-stimulating factor-mobilized prophylactic granulocyte transfusions and on clinical outcomes after stem cell transplantation

SO Blood (2000), 95(11), 3605-3612 CODEN: BLOOAW; ISSN: 0006-4971

- The primary limitations of granulocyte transfusions include low component AB cell dose and leukocyte incompatibility. Component cell dose improved with granulocyte colony-stimulating factor (G-CSF) mobilization, and the transfusion of G-CSF-mobilized, human leukocyte antigen (HLA)-matched granulocyte components resulted in significant, sustained abs. neutrophil count (ANC) increments. However, the effect of leukocyte compatibility on outcomes with G-CSF-mobilized granulocyte transfusions is unclear. The objectives were to det. the effect of leukocyte compatibility on ANC increments and selected clin. outcomes after transfusion of prophylactic, G-CSF-mobilized granulocyte components into neutropenic recipients of autologous peripheral blood stem cell (PBSC) transplants. Beginning on transplant day 2, 23 evaluable recipients were scheduled to receive 4 alternate-day transfusions of granulocyte components apheresed from a single donor. . . given G-CSF, G-CSF was also given to recipients after transplantation. Recipient ANC was detd. before and sequentially after each granulocyte transfusion to det. the peak ANC increment. Leukocyte compatibility was detd. at study entry only by a lymphocytotoxicity screening assay (s-LCA) against a panel of HLA-defined cells. Eight reclplents had pos. s-LCA. On days 2 and 4, the mean peak ANC increments after granulocyte transfusion were comparable between the cohorts with pos. and neg. s-LCA. However, the mean peak ANC increments on day 6 (246/.mu.L. day 8 (283/.mu.L vs 1079/.mu.L; P = .06) were lower in the cohort with pos. s-LCA, in spite of the transfusion of comparable component cell doses. Adverse reactions occurred with only 5 of 87 (5.7%) granulocyte transfusions and were not assocd. with leukocyte compatibility test results. Platelet increments, detd. 1 h after granulocyte transfusion, were comparable between the cohorts. Although the 2 cohorts received PBSC components with similar CD34+ cell doses, the cohort with. . . delayed neutrophil engraftment and a greater no. of febrile days and required more days of i.v. antibiotics and platelet transfusions. Leukocyte incompatibility adversely affected ANC increments after the transfusion of G-CSF-mobilized granulocyte components and clin. outcomes after PBSC transplantation.
- L15 ANSWER 2 OF 36 CAPLUS COPYRIGHT 2003 ACS on STN
- TI Graft-versus-leukemia effect and donor leukocyte transfusion. Efficacy of alloimmunity
- SO Molecular Medicine (Tokyo) (1999), 36(7), 754-761 CODEN: MOLMEL; ISSN: 0918-6557
- AB A review with 27 refs. on GVL (graft-vs.-leukemia) effects of DLT (donor leukocyte transfusion) after bone marrow transplantation, on DLT for treatment of recurrent malignancy in marrow grafted patients, on new approaches for DLT, . . .
- ST review graft leukemia leukocyte transfusion alloimmunity
- IT Immunity

(alloimmunity; graft-vs.-leukemia effect and donor leukocyte transfusion in relation to alloimmunity)

IT Blood transfusion

Leukemia

Leukocyte

(graft-vs.-leukemia effect and donor leukocyte transfusion in relation to alloimmunity)

L15 ANSWER 3 OF 36 CAPLUS COPYRIGHT 2003 ACS on STN

- TI Survival of donor **leukocyte** subpopulations in immunocompetent **transfusion** recipients: frequent long-term microchimerism in severe trauma patients
- SO Blood (1999), 93(9), 3127-3139 CODEN: BLOOAW; ISSN: 0006-4971
- AB . reported detection of a transient increase in circulating donor leukocytes (WBCs) in immunocompetent recipients 3 to 5 days posttransfusion (tx) (Blood 85:1207, 1995). We have now characterized survival kinetics of specific donor WBC subsets in addnl. tx populations. Eight female elective. . . and 14 post-tx. Ten female trauma pts transfused with a total of 4 to 18 U of relatively fresh red blood cells were sampled up to 1.5 yr post-tx. WBC subsets from frozen whole blood were isolated using CD4, CD8 (T cell), CD15 (myeloid), and CD19 (B cell) antibody-coated magnetic beads. Donor WBCs were counted by quant. polymerase chain reaction (PCR) of male-specific sex detg. region (SRY) sequences. PCR HLA typing and mixed leukocyte reaction (MLR) between recipient and donor WBCs were performed on two of the trauma tx recipients who had long-term chimerism. leukocytes. A better understanding of factors detg. clearance vs. chimerism of transfused leukocytes is crit. to prevention of alloimmunization and transfusion-induced graft -vs.-host disease, and, potentially, to induction of tolerance for transplantation.
- L15 ANSWER 4 OF 36 CAPLUS COPYRIGHT 2003 ACS on STN
- TI Generation of bcr-abl specific cytotoxic T-lymphocytes by using dendritic cells pulsed with bcr-abl (b3a2) peptide: its applicability for donor leukocyte transfusion in marrow grafted CML patients
- SO Leukemia (1999), 13(2), 166-174 CODEN: LEUKED; ISSN: 0887-6924
- AB(b3a2) peptide to generate b3a2-specific autologous or HLA-identical sibling donor's cytotoxic T-lymphocytes (CTL). DC that were grown from normal peripheral blood adherent cells or purified DC precursors in the presence of GM-CSF and IL-4, were pulsed with b3a2-peptide then were induced. . . addn. of TNF-.alpha.. These peptide-pulsed mature DC elicited a potent b3a2-specific CTL response in vitro. The b3a2-peptide pulsed DC-primed peripheral blood lymphocytes (PBL) displayed significantly higher cytotoxic activity compared with peptide non-pulsed DC-primed PBL against target cells, which are b3a2 pos.. . . peptide non-pulsed autologous macrophages. These findings revealed that normal donor PBL pre-immunized with b3a2-peptide pulsed autologous DC could increase the graft-vs.-leukemia effect without exaggerating graft-vs.-host-disease. Both CD8+ and CD4+ T lymphocytes were shown to be involved in the effector cell populations. The b3a2 peptide-pulsed DC-primed. . . results imply the feasibility of developing b3a2 peptide-DC based protocol for in vitro sensitization of normal donor leukocytes before donor leukocyte transfusions for patients with CML, who relapsed after HLA-matched sibling bone marrow transplantation.
- IT Phosphoproteins
 - RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (P210bcr-c-abl; autologous dendritic cells induce bcr-abl
 peptide-specific cytotoxic T-cell recognition of allogeneic chronic
 myelogenous leukemia cells in relation to transfusion for
 relapse in bone marrow allotransplant)
- IT Transplant and Transplantation Transplant and Transplantation
 - (allotransplant, bone marrow; autologous dendritic cells induce bcr-abl peptide-specific cytotoxic T-cell recognition of allogeneic chronic myelogenous leukemia cells in relation to **transfusion** for relapse in)
- IT Bone marrow.

(allotransplant; autologous dendritic cells induce bcr-abl peptide-specific cytotoxic T-cell recognition of allogeneic chronic

myelogenous leukemia cells in relation to transfusion for relapse in) IT Dendritic cell (autologous dendritic cells induce bcr-abl peptide-specific cytotoxic T-cell recognition of allogeneic chronic myelogenous leukemia cells in relation to transfusion for relapse after bone marrow transplantation) Adoptive immunotherapy IT Blood transfusion (autologous dendritic cells induce bcr-abl peptide-specific cytotoxic T-cell recognition of allogeneic chronic myelogenous leukemia cells in relation to transfusion for relapse in bone marrow allotransplant) IT Leukemia (chronic myelocytic; autologous dendritic cells induce bcr-abl peptide-specific cytotoxic T-cell recognition of allogeneic chronic myelogenous leukemia cells in relation to transfusion for relapse after bone marrow transplantation) IT T cell (lymphocyte) (cytotoxic; autologous dendritic cells induce bcr-abl peptide-specific cytotoxic T-cell recognition of allogeneic chronic myelogenous leukemia cells in relation to transfusion for relapse after bone marrow transplantation) Tumor necrosis factors IT RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative) (expression by bcr-abl peptide-specific cytotoxic T-cells primed by autologous dendritic cells in relation to transfusion for relapsed chronic myelogenous leukemia after bone marrow transplantation) 226560-54-9 ITRL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study) (autologous dendritic cells induce bcr-abl peptide-specific cytotoxic T-cell recognition of allogeneic chronic myelogenous leukemia cells in relation to transfusion for relapse in bone marrow allotransplant) IT 138238-67-2 RL: BSU (Biological study, unclassified); BIOL (Biological study) (autologous dendritic cells induce bcr-abl peptide-specific cytotoxic T-cell recognition of allogeneic chronic myelogenous leukemia cells in relation to transfusion for relapse in bone marrow allotransplant) IT 83869-56-1, Granulocyte-macrophage colony-stimulating factor RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative) (expression by bcr-abl peptide-specific cytotoxic T-cells primed by autologous dendritic cells in relation to transfusion for relapsed chronic myelogenous leukemia after bone marrow transplantation) ANSWER 5 OF 36 CAPLUS COPYRIGHT 2003 ACS on STN L15 Method of treating leukocytes, leukocyte compositions and TImethods of use thereof WO 9903976 A2 19990128 PIAPPLICATION NO. DATE PATENT NO. KIND DATE ____ WO 1998-US15067 19980721 <--PΙ WO 9903976 A2 19990128 **A3** WO 9903976 19990527 AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,

UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

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RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG A2 20000607 EP 1998-936943 19980721 <--AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI AU 748074 AU 1998-85776 B2 20020530 19980721 <--AU 9885776 19990210 **A**1 JP 2003520563 T2 20030708 JP 2000-503182 19980721 arrest proliferation of the leukocytes and render them ineffective in eliciting graft-vs.-host disease (GVHD), but effective to

. . . invention provides methods and compns. for treating leukocytes to arrest proliferation of the leukocytes and render them ineffective in eliciting graft-vs.-host disease (GVHD), but effective to enhance engraftment of allogeneic donor cells and promote destruction of diseased cells or pathogens. The diseased cells are cancerous or virus-infected cells. Leukocyte compns. and methods of use of these compns. in alleviating disease, facilitating various types of immune reconstitution and immunotherapy, and enhancing engraftment of allogeneic donor cells, are also provided. These proliferation-inhibited leukocytes for use in transfusion are prepd. by treating with replication inhibiting compd. selecting from .beta.-alanine,N-(acridin-9-yl),2-[bis(2-chloroethyl)amino]ethyl ester and analogs, topoisomerase inhibitors, camptothecin, daunomycin, furocumarins, actinomycins,...

IT **Blood** vessel

(endothelium, cells; prepn. of proliferation-inhibited leukocytes with replication-inhibiting compd. or topoisomerase inhibitor for destroying cancerous or infected cells and pathogens)

IT Blood

AB

(whole; prepn. of proliferation-inhibited leukocytes with replication-inhibiting compd. or topoisomerase inhibitor for destructing cancerous or infected cells and pathogens)

destructing cancerous or infected cells and pathogens)

L15 ANSWER 6 OF 36 CAPLUS COPYRIGHT 2003 ACS on STN

TI Cytokine mRNA and protein expression in a mixed leukocyte

reaction before and after allogeneic transfusions
SO Transplantation (1998), 66(3), 376-384
CODEN. TRRIAN. ISSN: 0041 1337

CODEN: TRPLAU; ISSN: 0041-1337 AB The precise mechanism by which pre-transplant blood transfusions may favorably influence the graft outcome in human transplantation remains unknown. Here, the authors explored whether the mechanism might be related to an alteration of cytokine response to transplantation antigens. Eight patients awaiting kidney transplantation were selected to receive a single planned pre-transplant blood transfusion. Before transfusion and 7 days after transfusion, peripheral blood mononuclear cells from these patients were isolated and in vitro stimulated in a 1-way mixed leukocyte reaction (MLR) by using allogeneic fixed Epstein Barr virus-transformed cells as stimulators. The use of a semiquant. reverse-transcriptase polymerase chain. . . revealed that allo-stimulation by donor cells clearly induced accumulation of interleukin (IL)-2, IL-4, interferon (IFN)-.gamma., and IL-10 mRNA in peripheral blood mononuclear cells collected both before and after transfusion (8 of 8 patients). However, both T helper 1 (IFN-.gamma.) and T helper 2 (IL-4) cytokine responses were more elevated after transfusion in 8 of 8 patients, as were IL-2 responses in 5 of 8 patients. Such up-regulation of cytokine responses by transfusion was mostly directed against blood donor cells. Indeed, after stimulation by third-party cells, this up-regulation was both inconstant (2 of 3 patients) and of less. . . stimulation by autologous cells (3 of 3 patients). That IL-2, IL-4, and IFN-.gamma. responses to donor cells were increased by transfusion was further supported by results on cytokine secretion showing increased levels of IL-2, IFN-.gamma., and IL-4 proteins in supernatants of posttransfusion MLR as compared with pretransfusion MLR. In contrast, transfusion-induced changes in the amt. of IL-10 mRNAs were not

obvious and were quite variable from one patient to another.

ST cytokine allogeneic blood transfusion transplant

IT Blood transfusion

(allogeneic, pre-transplant; cytokine mRNA and protein response to transplant antigens before and after allogeneic transfusions)

L15 ANSWER 7 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN

TI Donor **leukocyte** infusions after bone marrow transplantation in childdren: Series from a single institution and review of the literature.

SO International Journal of Pediatric Hematology/Oncology, (2000) 7/2 (71-79).

Refs: 31

ISSN: 1070-2903 CODEN: IPHOE4

. relapse after bone marrow transplantation for hematologic AB malignancies. Some of these patients may be reinduced into long lasting remissions through infusion of CD3+ lymphocytes from their original donor which induce a graft-versus-leukemia effect. Additional infusion of CD3+ donor cells can also be used to displace residual host T-lymphocytes in patients who only partially engraft with. . . lymphocytes may inhibit hematopoiesis, as in patients with aplastic anemia, and their displacement can allow for donor hematopoiesis to restore blood counts to normal values. Despite considerable experience in adults, there is very little information known about donor leukocyte infusions in children. Moreover, traditional donor leukocyte infusions in children (and in adults) have been limited by pancytopenia in about one third of patients; . . lymphocytes not only against host malignant cells but also against host normal hematopoietic cells. We therefore used G-CSF primed peripheral blood stem cell-enriched leukocyte infusions. These infusions contained CD3+ lymphocytes to provide a graft-versus-leukemia, and progenitor cells to restore donor hematopoisis and prevent pancytopenia. We report here our results in children in our bone. . . received this regimen for relapsed malignancy or for primary and/or secondary non-engraftment. We also review all reported literature on donor leukocyte infusions in children. Our experience and that of others indicate that donor leukocyte infusions should be considered for all children who relapse after bone marrow transplantation, especially in those with myeloid malignancies. Moreover, patients who exhibit suboptimal graft function early or late, should be considered for additional, measured doses of CD3+ lymphocytes from their original donors.

Medical Descriptors:

*bone marrow transplantation

*leukocyte

*hematopoietic stem cell transplantation peripheral blood stem cell

infusion
lymphocyte

antigen expression

graft versus leukemia effect

precursor cell

donor

hematopoiesis

pancytopenia: CO, complication pancytopenia: PC, prevention cancer recurrence: TH, therapy childhood cancer: TH, therapy

review

medical literature

human male

female

clinical article controlled study

infant child adult article priority journal granulocyte. L15 ANSWER 8 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN From leukocyte reduction to leukocyte TΙ transfusion: The immunological effects of transfused leukocytes. Bailliere's Best Practice and Research in Clinical Haematology, (SO 2000) 13/4 (585-600). Refs: 106 ISSN: 1521-6926 CODEN: BBPHFJ In transfusion medicine, mononuclear leukocytes have been AB studied more often as contaminants of red blood cells or platelets responsible for adverse transfusion outcomes than as therapeutic cells; leukocyte transfusion has been effective in augmenting recipient immunity only in limited clinical situations. Studies in leukocyte reduction and leukocyte transfusion have progressed separately as if the leukocytes' adverse and therapeutic effects result from different immunological mechanisms. With growing clinical experience, . . . may be exploited for therapeutic benefit. Advances in clinical immunology, understanding of the variety of cells and functions in the leukocyte fraction of blood, and blood component preparation technology may lead to new ways of deriving immunological benefit from transfused blood leukocytes while minimizing their adverse effects. This chapter reviews the current uses of leukocyte reduction and mononuclear leukocyte transfusion, with an emphasis on the relationship between transfusion-associated graft -versus-host disease and donor lymphocyte infusion in controlling relapsed leukaemias. CTMedical Descriptors: *leukocyte transfusion *monocyte *immunity blood transfusion leukocyte count contamination erythrocyte thrombocyte blood transfusion reaction: CO, complication treatment outcome clinical medicine recipient clinical immunology cell function cytology review graft versus host reaction: CO, complication lymphocyte transfusion cancer recurrence leukemia: TH, therapy human nonhuman mouse animal experiment animal model controlled study article priority journal

ΤI Donor leukocyte infusions for the treatment of leukemia relapse after allogeneic hematopoietic cell transplantation with myeloablative conditioning. SO Turkish Journal of Haematology, (2000) 17/4 (171-181). Refs: 40 ISSN: 1300-7777 CODEN: TJHSFS . the donor seem to be effective and it has been understood that AB the success of the transplantation depends mainly on graft versus leukemia effect. Thirteen patients with leukemia (8 CML, 5 AML) who had relapsed after allogeneic hematopoietic cell transplantation (HCT) with myeloablative conditioning, have received donor leukocyte infusions (DLI). The median time between transplantation and relapse was 18 months (4-57 months). For CML patients who had cytogenetic. of 5 million units/m(2)/d for every consecutive days. Starting from the fifth week of this treatment, unprimed donor peripheral blood mononuclear cells were infused to the patients once a week for four weeks. IFN treatment was not cessated during these. CTMedical Descriptors: *leukemia: . . reaction: SI, side effect relapse: DT, drug therapy relapse: TH, therapy leukemia remission cancer growth treatment outcome immune response mononuclear cell infection: CO, complication infection: DT, drug therapy infection: PC, prevention lymphocyte transfusion cytopenia: SI, side effect chimera disease course article recombinant alpha2b interferon: DT, drug therapy recombinant alpha2b interferon: DO, drug dose recombinant alpha2b interferon: AE, adverse. ANSWER 10 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN L15 Variable leukocyte composition of red blood cell concentrates prepared in top-bottom systems: Possible implications for pre-transplant blood transfusion. SO Vox Sanguinis, (2000) 79/2 (83-86). Refs: 8 ISSN: 0042-9007 CODEN: VOSAAD Background and Objectives: The beneficial effect of blood AB transfusion on kidney graft survival requires the presence of leukocytes in the transfusate, but a minimal dose has not been defined, nor has the role of individual leukocyte subsets been investigated. In the Netherlands, a standard pre-transplant blood transfusion consists of a buffy coat (BC)-depleted red **blood** cell concentrate (RBCC) containing a maximum of 1.2 x 109 residual leukocytes per unit. However, leukocyte subset composition is not standardized. Materials and Methods: Using FACS analysis, this study compared the residual leukocyte composition of RBCCs produced by Compomat.RTM. and Optipress.RTM., two currently used top-bottom systems. Results: While the total leukocyte content of the RBCCs was equivalent in both press types (0.5 x 109), the percentage of mononuclear cells (lymphocytes and. . . resulting in significantly higher numbers of transfused T cells, B cells, HLA-DR-positive cells, NK cells and stem cells. Conclusions: The leukocyte composition of a pre-transplant blood transfusion depends on the BC depletion method used; this might differentially affect the tolerizing or immunizing potential of a pre-

transplant blood transfusion. Copyright (C) 2000 S. Karger AG, Basel. Medical Descriptors: *erythrocyte concentrate *erythrocyte transfusion leukocyte count blood transfusion fluorescence activated cell sorter monocyte B lymphocyte T lymphocyte natural killer cell human article priority journal HLA DR antigen: EC, endogenous compound ANSWER 11 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN L15 Donor leukocyte infusions for recurrent hematologic malignancies after allogeneic bone marrow transplantation: Impact of infused and residual donor T cells. SO Bone Marrow Transplantation, (1998) 22/11 (1057-1063). Refs: 18 ISSN: 0268-3369 CODEN: BMTRE We evaluated the efficacy and toxicity of different doses of donor T cells AB given with donor leukocyte infusions (DLI) as treatment for relapse of various hematologic malignancies after allogeneic bone marrow transplantation (BMT). We also studied whether. . . T cells/kg whereas patients with MM generally responded when they received .gtoreq. 10 x 107 T cells/kg. However, despite the infusion of high T cell doses (up to 32 x 107 T cells/kg), practically all patients with AL failed to respond. The likelihood of response was strongly related to the occurrence of graft-versus-host disease (GVHD) in patients with CML and MM (P = 0.0002), although GVHD was not helpful for patients with AL.. CT Medical Descriptors: *blood disease: TH, therapy *allogenic bone marrow transplantation *leukapheresis *t lymphocyte chimera chronic myeloid leukemia: TH, therapy multiple myeloma: TH, therapy acute leukemia: TH, therapy leukemia remission graft versus host. ANSWER 12 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN TI Efficacy of various blood bank filters for leukocyte depletion of red blood cell concentrates. SO Infusionstherapie und Transfusionsmedizin, (1998) 25/5 (312-316).Refs: 19 ISSN: 1019-8466 CODEN: IRANEE Background: Leukocyte reduction is performed in order to omit and minimize, respectively, the adverse clinical effects such as alloimmunization, immunomodulation, disease transmission and graft -versus- host reactions. Material and Methods: Leukocyte depletion was performed on red blood-cell (RBC) concentrates with CPDA1 as the additive solution (CPDA1 RBC concentrates) as well as on RBC concentrates with Adsol as the additive solution (Adsol RBC concentrates) with the following blood bank filter systems: BPF 4 (FI), BIOR 01 Plus BBS (FII), and Sepacell RS 200B1 (FIII). Leukocyte counts were carried out prefiltration using an

electronic particle counter, postfiltration with the manual Nageotte

cytometer and flow cytometry. Results: Higher leukocyte counts were measured with flow cytometry than with the manual Nageotte cytometer in each case. Markedly more leukocytes were found. . . which would encourage the use of Adsol as an additive. According to the guidelines set by the European Committee for Blood Transfusion

Services an adequate leukocyte depletion (CILL (critical immunologic load of leukocytes) of < 5 x 106 for erythrocyte concentrates) was achieved with all three. . . showed the same results concerning the general tendency but not the absolute values which differed markedly. Conclusions: The heterogeneity of leukocyte depletion by the three filters in combination with the results of the repetition study stresses the need for clinical quality. . .

Medical Descriptors:

*blood bank

*blood filter

*leukopenia: TH, therapy
*erythrocyte concentrate
flow cytometry
leukocyte
cell population
alloimmunization
immunomodulation
graft versus host reaction
granulocyte
quality control

blood transfusion

human human cell article

L15 ANSWER 13 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN

TI Donor leukocyte infusion for treatment of graft rejection post partially mismatched related donor bone marrow transplant.

SO Bone Marrow Transplantation, (1998) 22/1 (111-113).

Refs: 16

ISSN: 0268-3369 CODEN: BMTRE

AB Graft rejection following bone marrow transplantation is more common in patients who receive their grafts from alternative donors and whose marrow. . . hematopoietic recovery. We describe a patient with chronic myelogenous leukemia in accelerated phase who rejected a T cell-depleted bone marrow graft, 2 months following partially mismatched related donor bone marrow transplant. Unmanipulated peripheral blood donor leukocyte infusion, without additional chemotherapy or immunosuppressive therapy resulted in complete hematopoietic recovery. Cytogenetics and RFLP demonstrated hematopoietic donor chimerism. The patient did not develop graft -versus-host disease.

CT Medical Descriptors:

*leukocyte transfusion

*graft rejection: CO, complication

*graft rejection: TH, therapy

*chronic myeloid leukemia: DT, drug therapy

*chronic myeloid leukemia: TH, therapy

bone marrow transplantation

t lymphocyte

host cell

hematopoiesis

cytogenetics

restriction.

L15 ANSWER 14 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN

TI Testicular relapse of AML during chronic graft-versus-host disease induced by donor leukocyte infusion.

SO Haematologica, (1996) 81/4 (339-342).

Refs: 12

ISSN: 0390-6078 CODEN: HAEMAX

AB Treatment options for acute leukemia relapsing after allogeneic BMT include conventional chemotherapy or a second transplant; however, results are rather discouraging, the first option being associated with poor survival and the second with a high mortality rate. More recently, donor leukocyte infusion (DLI) from the original donor has been used for relapsed patients in an attempt to induce a graft-versus-leukemia (GVL) effect. This procedure is partially devoid of the toxicity inherent to a second BMT. At our Institution, a 36-year-old patient with biphenotypic AML in second complete remission after relapse following allogeneic BMT was treated with peripheral blood stem cell (PBSC)-enriched donor leukocytes, obtained after in vivo priming with rhG-CSF. The patient experienced extensive cGVHD but developed a. . .

L15 ANSWER 15 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN

TI Distinct circulation patterns in peripheral **blood** of **leukocyte** subpopulations during the first 24 hours following autologous bone marrow transplantation.

SO Journal of Hematotherapy, (1996) 5/6 (647-654).
Refs: 22

ISSN: 1061-6128 CODEN: JOEMEL

- We have studied the recirculation patterns of leukocyte subpopulations during the first 24 h at 5 min before and 5, 15, 180, and 1440 min after autologous bone. . . and measurements of myeloid progenitors (CFU-GM). Although the great majority of the injected cell populations were undetectable 5 min after graft infusion , the number of CD3+ T lymphocytes increased at 5 and 15 min and again at 24 h post-ABMT. In contrast, . . . practically absent before ABMT but were clearly detectable in 12 of 14 patients throughout the observation period. We conclude that leukocyte subsets exhibit different recirculation patterns after ABMT, and in light of the increased knowledge about leukocyte- endothelial interactions, these data could provide a platform for attempts to control leukocyte recirculation during stem cell infusion.
- L15 ANSWER 16 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
- Donor **leukocyte** transfusions and discontinuation of immunosuppressants to achieve an initial remission after allogeneic bone marrow transplantation in a patient with primary. . .
- SO Bone Marrow Transplantation, (1996) 18/1 (257-259). ISSN: 0268-3369 CODEN: BMTRE
- AB . . . an allogeneic bone marrow transplantation for primary refractory Philadelphia-positive acute biphenotypic leukemia. Since leukemic blasts were persistently present in peripheral blood and bone marrow, in spite of the evidence for engraftment of male donor hematopoiesis, we performed donor leukocyte transfusions and discontinued immunosuppression. An initial complete remission was obtained 15 weeks after allogeneic bone marrow transplantation, and lasted for. . . weeks. We concluded that the prominent mechanism for the eradication of the refractory leukemic clone in the patient was the graft -versus-leukemia effect.

CT Medical Descriptors:

- *acute leukemia: TH, therapy
- *allogenic bone marrow transplantation

*leukocyte transfusion

adult
article
case report
drug withdrawal
female
hematopoiesis
human

priority journal
remission
*immunosuppressive agent

- L15 ANSWER 17 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
- TI Lymphocytosis of donor origin in cerebrospinal fluid, and marrow aplasia after donor **leukocyte infusion** for EBV-lymphoproliferative disease.
- SO Bone Marrow Transplantation, (1996) 18/1 (221-224). ISSN: 0268-3369 CODEN: BMTRE
- A 29-year-old woman underwent a T cell-depleted unrelated donor AB transplant for CML in chronic phase. Sixty-three days after marrow infusion, the patient developed fevers and generalized lymphadenopathy. Lymph node biopsy was consistent with monoclonal EBV-associated immunoblastic lymphoma for which the patient received 105 CD3-positive donor leukocytes per kilogram. Six days after leukocyte infusion the patient developed mental status changes without focal neurological deficit. MRI revealed no mass lesions. Cerebral spinal fluid revealed a white blood cell count of 1650 cells/mm3 which were shown to be T lymphocytes of donor origin. The CSF was tested and. . . mental status changes resolved without specific intervention. Subsequently she developed marrow aplasia, which was believed to be secondary to the infusion of donor leukocytes. Possible mechanisms for these two previously unreported side-effects of donor leukocyte infusion are discussed.
- CT Medical Descriptors:
 - *bone marrow aplasia: CO, complication
 - *cerebrospinal fluid

*leukocyte transfusion

- *lymphocytosis: ET, etiology
- *lymphocytosis: CO, complication
- *lymphoproliferative disease: TH, therapy
- *lymphoproliferative disease: ET, etiology

adult

article

case report

chronic myeloid leukemia: TH, therapy

epstein barr virus

female

fever: CO, complication

human

leukocyte.

- L15 ANSWER 18 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
- TI [Leukocyte depletion of blood products. Indications and technical execution].

 LEUKOZYTENDEPLETION VON BLUTPRODUKTEN. INDIKATIONEN UND TECHNISCHE DURCHFUHRUNG.
- SO Fortschritte der Medizin, (1995) 113/8 (46+49-50). ISSN: 0015-8178 CODEN: FMDZAR
- AB Leukocytes contaminating donated **blood** are considered to be responsible for many of the side effects associated with **blood** transfusions. These include HLA sensitization and its sequelae, as well as **graft** versus host reaction, transmission of CMV. The present article summarizes the indications for **leukocyte** depletion and its technical execution.
- CT Medical Descriptors:

*blood transfusion

- *leukocyte
- *lymphocyte depletion

HLA system

cytomegalovirus

graft versus host reaction

human

safety short survey virus transmission *blood

ANSWER 19 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN L15 Leukocyte-reduced transfusions of ABO-identical platelets and TI clinical outcome in autologous bone marrow transplantation. Bone Marrow Transplantation, (1994) 14/6 (943-948). SO

ISSN: 0268-3369 CODEN: BMTRE

In observational studies, use of ABO-identical platelets and AB leukocyte-reduced blood components have been associated with prolonged survival and reduced morbidity in acute leukemia. We present an analysis of the clinical results of instituting a policy of ABO-identical, leukoreduced transfusions in adult patients with lymphoma undergoing autologous bone marrow transplantation. Consecutive patients with Hodgkin's disease or non-Hodgkin's lymphoma were treated with a BEAC conditioning regimen. The use of ABO-identical platelets and leukoreduction of blood components was associated with reductions in mean number of days with fever .gtoreq. 38.5.degree.C (17 vs 10), number of days. . . in morbidity were not explained by variations in supportive care such as use of hematopoietic growth factors, use of peripheral blood stem cells or by any measures of pretransplant disease extent or severity. While conclusions based on cohort studies must be. . . clinical studies. ABO-identical platelet transfusions and leukoreduction are associated with reduced morbidity in patients undergoing autologous bone marrow transplantation for lymphoma.

Medical Descriptors:

*autologous bone marrow transplantation

*blood group ABO system

*hodgkin disease: DT, drug therapy *hodgkin disease: SU, surgery *hodgkin disease: TH, therapy *nonhodgkin lymphoma: TH, therapy *nonhodgkin lymphoma: SU, surgery *nonhodgkin lymphoma: DT, drug therapy *thrombocyte transfusion acute leukemia: TH, therapy adult article clinical article cohort analysis controlled study data analysis

fever: DT, drug therapy human human cell leukocyte leukocyte count male morbidity neutrophil

female

priority journal survival

virus infection: PC, prevention virus infection: DT, drug.

L15 ANSWER 20 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN

Intact survival with transfusion-associated graft-versus-host disease proved by human leukocyte antigen typing of lymphocytes in skin biopsy specimens.

SO Journal of Pediatrics, (1995) 126/1 (61-64).

ISSN: 0022-3476 CODEN: JOPDAB AΒ A transient transfusion-associated graft-versus-host disease occurred in a premature infant of 30 weeks of gestation. We demonstrated donor lymphocytes in a skin biopsy specimen with a two-step immunoperoxidase technique using monoclonal antibodies against human leukocyte antigen determinants specific for the donor. The girl survived and is immunocompetent. CTMedical Descriptors: *HLA typing *blood transfusion *graft versus host reaction: DI, diagnosis article case report human human tissue immunofluorescence lymphocyte newborn prematurity priority journal skin biopsy survival L15 ANSWER 21 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN Relapse of chronic myeloid leukemia after allogeneic bone marrow transplant: The case for giving donor leukocyte transfusions before the onset of hematologic relapse. so Blood, (1994) 83/11 (3377-3383). ISSN: 0006-4971 CODEN: BLOOAW AB Fourteen patients with chronic myeloid leukemia (CML) relapsing after allogeneic bone marrow transplant (BMT) were treated with leukocyte transfusions from the original marrow donor (sibling, n = 9; volunteer unrelated, n = 5). The relapse was defined at. . responder has shown sign of relapse. Reversible marrow aplasia occurred in two patients, both treated in hematologic relapse. Severe graft -versus-host disease occurred in four patients and was fatal in one. We confirm previous reports that donor leukocyte transfusions are effective in the management of CML in relapse after BMT. In this series, therapeutic intervention before the onset. Medical Descriptors: *allogenic bone marrow transplantation *cancer recurrence *chronic myeloid leukemia: SU, surgery adult article blood transfusion bone marrow aplasia clinical article cytogenetics graft versus host reaction: CO, complication human polymerase chain reaction priority journal ANSWER 22 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN Leukocyte reduction of cellular blood components: Effectiveness, benefits, quality control, and costs. SO Archives of Pathology and Laboratory Medicine, (1994) 118/4

ISSN: 0003-9985 CODEN: ARPAAQ

AB Cellular blood components contain passenger donor leukocytes.

Transfusion of passenger leukocytes may be associated with alloimmunization to leukocyte antigens, febrile transfusion reactions, refractoriness to platelet

(392-404).

transfusion, severe pulmonary dysfunction, graft-vs-host disease, the transmission of infectious diseases, and immune modulation. Advanced leukocyte-reduction filters enable the removal of up to 99.9% of leukocytes from cellular blood components. Clinical trials suggest that the use of leukocyte-reduction filters may prevent or diminish the probability of febrile transfusion reactions, alloimmunization, and cytomegalovirus infection, but controversy exists regarding the effectiveness of leukocyte reduction in preventing immune modulation. There is no evidence that available techniques will prevent graft-vs-host disease. Cost-benefit analyses support the use of leukocyte-reduction filters for well-defined indications. Standards for leukocyte reduction of red blood cells have been defined, but issues regarding the quality control of leukocyte-reduced blood components require additional study.

CTMedical Descriptors:

*erythrocyte transfusion

*leukapheresis

*thrombocyte transfusion

alloimmunization

blood filtration

blood transfusion reaction: CO, complication

conference paper cost benefit analysis cytomegalovirus infection fever: CO, complication graft versus host reaction immunoregulation quality control

HLA antigen: EC, endogenous compound

- ANSWER 23 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN L15 TТ .gamma.-Irradiation of pretransplant blood transfusions from unrelated donors prevents sensitization to minor histocompatibility antigens on dog leukocyte antigen-identical canine marrow
- Transplantation, (1994) 57/3 (423-426). SO ISSN: 0041-1337 CODEN: TRPLAU
- AB Pretransplant blood transfusions from a dog leukocyte antigen (DLA) - identical canine littermate marrow donor will sensitize the recipient to non- DLA-linked polymorphic minor histocompatibility antigens, which uniformly results in graft rejection. We observed previously that 2000 cGy .gamma. - irradiation of marrow donor blood transfusions prevented this sensitization and subsequent marrow graft rejection. The purpose of the present study was to determine whether treatment of unrelated blood transfusions with .gamma. - irradiation would also prevent sensitization. Conceivably, sensitization to minor histocompatibility antigens might be more efficient . . context of disparity for DLA antigens. Furthermore, this model, in which sensitization to DLA-identical littermate marrow is caused by unrelated blood transfusions, is directly relevant to the clinical circumstances of human marrow transplantation. We assessed sensitization caused by unrelated blood transfusions by monitoring graft outcome in recipients transplanted with DLAidentical littermate marrow after conditioning with 920 cGy total body irradiation. Two thousand cGy .gamma.-irradiation of unrelated blood transfusions significantly reduced the incidence of transfusion-induced sensitization of recipients. There was successful marrow engraftment in 15 of 16 (94%, P<0.003) of these animals in contrast to the previous study in which only 7 of 16 (44%) animals engrafted after they were transfused with unmodified blood on the same schedule. These results suggest that blood transfusions for use in humans, especially for patients with aplastic anemia, should be .gamma.- irradiated in order to reduce the incidence of marrow

graft rejection caused by sensitization to minor histocompatibility antigens. CT Medical Descriptors: *blood transfusion *bone marrow transplantation *qamma irradiation *graft versus host reaction: PC, prevention *graft versus host reaction: CO, complication animal experiment animal model animal tissue aplastic anemia article dog nonhuman priority journal sensitization whole body. L15ANSWER 24 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN ТT Mediators of leukocyte activation play a role in disseminated intravascular coagulation during orthotopic liver transplantation. Transplantation, (1994) 57/3 (354-358). SO ISSN: 0041-1337 CODEN: TRPLAU AB In the reperfusion phase of OLT a DIC-like situation has been described and has been held responsible for the high blood loss during this phase. We investigated the role of leukocytes in the pathogenesis of DIC in OLT by measuring the. . . (cathepsin B, elastase, TNF, neopterin) and the levels of thrombin-anti-thrombin III (TAT) complexes, seen as markers of prothrombin activation. Arterial blood samples were taken at 10 different time points during and after OLT. Samples were also taken of the perfusate released from the liver graft vein during the flushing procedure before the reperfusion phase. Aprotinin was given as a continuous infusion (0.2-0.4 Mill. KIU/hr) and its plasma levels were determined. Significantly elevated levels of neopterin (15-fold; P<0.01), cathepsin B (440-fold; P<0.01). . . systemic circulation, as well as their significant increases in the early reperfusion phase suggested that they were released by the graft liver. This was paralleled by elevated levels of elastase (1.3- fold, P<0.05), TNF (1.5-fold, P=NS), and TAT complexes (1.4-fold; P<0.1) in the perfusate. Significant correlations could be identified between the parameters of leukocyte activation and TAT complexes, whereas no correlation was observed between any of the parameters investigated and the aprotinin levels. Our results strongly indicate a release of leukocytic mediators from the graft liver during its reperfusion which seems to be related to the parallel increased prothrombin activation. No correlation could be seen. Medical Descriptors: *disseminated intravascular clotting: CO, complication *leukocyte activation *liver transplantation article bleeding: CO, complication clinical article correlation function female human male pathogenesis priority journal protein blood level reperfusion aprotinin

cathepsin b: EC, endogenous compound

elastase: EC, endogenous compound neopterin: EC, endogenous compound prothrombin: EC, endogenous compound thrombin: EC, endogenous compound thrombocyte antibody: . . .

L15 ANSWER 25 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN Leukocyte reduction filtration: Technologies, benefits, applications, and limitations.

SO Laboratory Medicine, (1994) 25/2 (96-101).

ISSN: 0007-5027 CODEN: LBMEBX

AB Recent developments in leukocyte reduction (LR) filtration technology are reviewed. Maturing over the past decade, these filter devices are very effective, easy, and safe. . . Although guidelines for use or recommendations for specific clinical indications remain incompletely resolved, some promising applications eg, delay/prevention of white blood cell (WBC) alloimmunization and platelet refractoriness or cytomegalovirus 'safe' components are being investigated by multicenter trials, LR filtration would logically benefit patients who require prolonged or chronic transfusion support and those with recurrent febrile nonhemolytic transfusion reactions associated with WBC alloimmunization. At this time, LR filtration is recommended neither for all blood recipients nor to prevent transfusion- associated (TA) graft -versus-host disease or TA immunomodulation.

CT Medical Descriptors:

*alloimmunity

*blood filtration
*leukocyte transfusion
blood bank
blood storage

blood transfusion reaction: ET, etiology blood transfusion reaction: PC, prevention

clinical trial cytomegalovirus

graft versus host reaction: ET, etiology graft versus host reaction: PC, prevention

numan
immunomodulation
multicenter study
review
technology

virus transmission

*HLA antigen: EC,.

L15 ANSWER 26 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN

TI Salvage immunotherapy using donor leukocyte infusions as
treatment for relapsed chronic myelogenous leukemia after allogeneic bone
marrow transplantation: Efficacy and toxicity of a defined T-cell. . .

SO Blood, (1993) 82/8 (2310-2318).

ISSN: 0006-4971 CODEN: BLOOAW

AB . . . patients who had hematologic relapse of chronic myelogenous leukemia (CML) after undergoing allogeneic bone marrow transplantation (BMT) were treated with leukocyte infusions from the original bone marrow donors. All patients had previously received marrow grafts from HLA-identical siblings. Six patients were. . . 5.0 x 108 T cells/kg. Three patients also received short courses of therapy with alpha. interferon to control elevated white blood cell counts within the first several weeks after leukocyte transfusions. Seven of eight evaluable patients developed graft-versus-host disease (GVHD) at a median of 32 days after the initial infusion. One patient had fatal GVHD. A second patient had grade 3 acute GVHD, which has responded to immunosuppressive therapy. The. . . all had mild grade I GVHD. Six patients continue to require modest doses of prednisone

more than 6 months after **infusion**. Four patients developed marrow aplasia, which in three patients required marrow boosts from the original donors. Two of these three patients have normal hematopoietic function, whereas the third patient remains growth factor and **transfusion** dependent. Both patients treated in blast crisis have died, one from GVHD and one from disease progression. All six patients in the accelerated phase are alive and in cytogenetic remission at a median of 42 weeks after **infusion**. Five of these six patients are in molecular remission. This study demonstrates that **leukocyte** infusions that administered a defined T-cell dose can exert a profound **graft**-versus-leukemia effect and are an effective form of salvage immunotherapy in allogeneic marrow **transplant** recipients. This therapeutic approach appears to be a viable alternative to existing chemotherapeutic and immunomodulatory strategies for the treatment of.

Medical Descriptors: CT*cancer immunotherapy *chronic myeloid leukemia: TH, therapy allogenic bone marrow transplantation article bone marrow aplasia cancer recurrence clinical article graft versus host reaction: CO, complication human human cell leukocyte transfusion multimodality cancer therapy priority journal t lymphocyte alpha interferon

- L15 ANSWER 27 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN Molecular remission occurring after donor **leukocyte** infusions for the treatment of relapsed chronic myelogenous leukemia after allogeneic bone marrow transplantation.
- SO Bone Marrow Transplantation, (1992) 10/3 (301-304). ISSN: 0268-3369 CODEN: BMTRE
- Donor leukocyte infusions were administered to a patient who had AR relapsed with chronic myelogenous leukemia after having failed two successive HLA-matched allogeneic bone marrow transplants. Serial cytogenetic, restriction fragment length polymorphism, and polymerase chain reaction studies of the patient's marrow and blood after receiving donor leukocyte infusions revealed disappearance of the leukemic clone and the establishment of complete donor chimerism. An antileukemic response in this patient occurred initially in the absence of clinically evident graft-versus-host disease (GVHD), but complete eradication of the leukemic clone did not occur until after the onset of GVHD. The patient is now 48 weeks post infusion and remains in complete remission. This case demonstrates that leukocyte infusions are an effective form of adoptive immunotherapy which can result in a sustained molecular remission. Medical Descriptors:

*allogenic bone marrow transplantation
*chronic myeloid leukemia: SU, surgery
*chronic myeloid leukemia: TH, therapy
*infusion

*leukocyte
adult
article
blood
bone marrow
case report

chimera
chromosome analysis
donor
female
graft versus host reaction
human
human cell
leukemia remission
polymerase chain reaction
restriction fragment length polymorphism

- L15 ANSWER 28 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN

 Leukocyte-depleted reperfusion of transplanted human hearts
 prevents ultrastructural evidence of reperfusion injury.

 SO Journal of Surgical Research, (1992) 52/4 (298-308).
 ISSN: 0022-4804 CODEN: JSGRA2

 AB The present study examines whether leukocyte depletion can
 prevent postreperfusion ultrastructural injury in transplanted hum
 hearts. Thirty- two patients undergoing orthotopic cardiac transpl
- prevent postreperfusion ultrastructural injury in transplanted human hearts. Thirty- two patients undergoing orthotopic cardiac transplantation were randomized to receive either enriched, warm, whole blood (Group I; n = 16) or enriched, warm, leukocyte-depleted blood (Group II; n = 16) reperfusion. Donor hearts were arrested with 1 liter of 4.degree.C crystalloid cardioplegia and topically cooled.. . . Group II showed minimal changes with a grade of 1.33 .+-. 0.09, P < 0.0001 in comparison to Group I Leukocyte-depleted reperfusion of human transplanted hearts prevents ultrastructural injury. This may allow safe extension of the ischemic period and result in improved graft function.
- CT Medical Descriptors:
 - *heart muscle reperfusion
 - *heart transplantation
 - *reperfusion injury: ET, etiology
 - *reperfusion injury: TH, therapy
 - *reperfusion injury: PC, prevention

adult

blood flow velocity blood transfusion

cell damage
cell metabolism
cell ultrastructure
clinical article
conference paper
controlled study
graft survival
heart muscle biopsy

heart muscle ischemia: ET, etiology heart muscle ischemia: PC, prevention

heart muscle human human cell human tissue leukocyte.

- L15 ANSWER 29 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
- TI Evaluation of the effects of cyclosporine and HLA-typed source leukocyte transfusions (apheresis by-products) on the immune systems of highly sensitized prospective renal allograft recipients.
- SO Transplantation Proceedings, (1987) 19/1 I (735-737). CODEN: TRPPA8
- The expanding numbers of highly sensitized prospective renal transplant recipients waiting on transplant lists continues to be a major problem. Due to their high levels of circulating antibody, these patients remain essentially untransplantable.. . . of our protocol is to determine whether cyclosporine alone, or in combination with the antigenic load of HLA typed source leukocyte

transfusions can cause a progressive reduction of peripheral reactive cytotoxic antibody in highly sensitized patients. This report will detail

CT Medical Descriptors:

*HLA system

*drug blood level

- *drug determination
- *drug efficacy
- *drug interaction
- *drug monitoring
- *kidney allograft

*leukocyte transfusion

*drug therapy

*sensitization

kidney allograft rejection

blood and hemopoietic system

kidney

lymphatic system

priority journal

drug analysis

therapy

intravenous drug administration

oral drug administration

methodology

human

clinical article

- *cyclosporin
- *cytotoxic antibody
- *cyclosporin a
- L15 ANSWER 30 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
- TI A randomized study comparing leukocyte-depleted versus packed
- red cell transfusions in prospective cadaver renal allograft recipients.
- SO Transfusion, (1985) 25/2 (116-119).

CODEN: TRANAT

A prospective randomized study at a single renal transplant AB center between 1980 and 1982 compared the influence of leukocyte -depleted versus packed red cell pretransplantation blood transfusions on patient sensitization to leukocyte (HLA) antigens, likelihood of receiving a graft, and eventual transplantation results. All consenting potential cadaver renal transplant recipients (n = 107) were randomly assigned to receive transfusions at 6-week intervals with either packed red cells (Group 1) or leukocyte-poor red cells (Group 2) until they were transplanted. Actuarial graft and patient survival were identical for graft recipients in both groups. Although the likelihood of receiving a graft was associated with the level of pretransplant sensitization to leukocyte (HLA) antigens (p < 0.02) as measured by the percent of panel reactive antibody (PRA), it was not associated with the type of blood used. The highest mean peak reactive PRA level for all patients showed a low but significant increase (29 .+-. 4 versus 43 .+-. 5%; p < 0.0005) following entry into the transfusion protocol, but the rate of increase was the same for patients in both treatment groups. The likelihood of receiving a transplant was primarily associated with a history of prior graft rejection (p < 0.05), and patients with prior graft</pre> loss had the greatest increase in sensitization following entry into the transfusion protocol. These findings indicate that using leukocyte-poor red cells for pretransplant transfusions provided no added benefit when compared with packed red cells in terms of patient sensitization, the likelihood of receiving a transplant, or eventual graft survival.

Medical Descriptors:
 *blood transfusion

CI

*kidney transplantation
*sensitization
cadaver kidney
leukocyte
priority journal
blood and hemopoietic system
kidney
human
peripheral vascular system
major clinical study
*HLA antigen

L15 ANSWER 31 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN

TI Role of regular and **leukocyte**-free **blood** transfusions in the generation of broad sensitization.

SO Transplantation, (1984) 38/6 (594-598).

CODEN: TRPLAU

The factors associated with the development of humoral sensitization were AB studied prospectively in 30 previously transplanted patients immediately after graft rejection. Lymphocyte antibodies were measured both by conventional cytotoxicity in 30 panel cells and by flow cytometry in up to 10 target cells. Although lymphocyte antibodies induced by graft rejection alone were detected in 12 of 26 patients (46%), lymphocytotoxic antibodies were present in only 2 of 27 patients.. 25 patients without lymphocytotoxic antibodies, 13 developed them later. In all cases panel antibody reactivity developed after the patients received blood transfusions. No other factor was associated with the development of lymphocytotoxic antibodies, including transplant nephrectomy. There were 12 patients who remained negative for lymphocytotoxic antibodies even though 5 of them were transfused. The powerful role of blood transfusions in the generation of broad sensitization was further documented in 5 patients who received blood units completely depleted of leukocytes by cottonwool filtration and red cell washing. Four of these patients showed significant increases in the level of lymphocytotoxic antibodies, even when stored blood units were used. One additional patient became broadly sensitized by the transfusion of frozen blood. These results show (A) that broad sensitization may not develop if patients are not transfused after graft rejection; (B) that blood transfusions lead to broad sensitization in most (76%) pretransplanted patients; and (C) that transfusion of leukocyte-free blood may delay, but not avoid, the development of broad sensitization.

CT Medical Descriptors:

*blood transfusion
*sensitization
kidney transplantation
blood and hemopoietic system
priority journal
kidney
human
etiology
therapy
clinical article
*lymphocyte antibody

- L15 ANSWER 32 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
- TI Studies of the response in mixed **leukocyte** culture of cells from patients with aplastic anemia to cells from HLA-identical siblings.
- SO Transplantation, (1981) 32/2 (90-95). CODEN: TRPLAU
- AB We have studied the mixed **leukocyte** culture (MLC) reactions of 64 patients with severe aplastic anemia. Their peripheral **blood** mononuclear cells showed an increased relative response (RR) to cells from

HLA-identified siblings as compared to cells from normal HLA-identical. patients receiving marrow grafts from HLA-identical sibling donors, those with elevated RRs before transplantation were more apt to reject the transplant than those without (P<0.0001). There was no elevation of the RR in 10 untransfused patients, although positive RRs were noted. of their first transfusions. Five patients with identical twins were also tested, and elevated RRs were noted in three. Although blood transfusion appears to be responsible for the increased RRs observed in some aplastic patients, genetic differences between donor and recipient were.

CTMedical Descriptors:

*HLA system

*aplastic anemia

*blood transfusion *mixed leukocyte culture bone marrow transplantation sibling in vitro study heredity major clinical study

blood and hemopoietic system

lymphatic system

L15 ANSWER 33 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN

Effect of high-dose methylprednisolone infusion on ΤI polymorphonuclear leukocyte function in patients with systemic lupus erythematosus.

Arthritis and Rheumatism, (1981) 24/5 (641-647). SO CODEN: ARHEAW

We have studied the effect of high-dose (1 gm) methylprednisolone ABinfusion on polymorphonuclear leukocyte (PMN) function in 11 patients with active systemic lupus erythematosus (SLE). The only alteration of polymorphonuclear leukocyte function produced consistently by methylprednisolone was decreased adherence to plastic surfaces when tested 2 hours after infusion. This steroid-induced abnormality, however, was transient. Cells obtained from patients 24 hours after a single dose of drug exhibited normal. These results indicate that single, large doses of methylprednisolone do not produce long-lasting abormalities of PMN function in patients with lupus.

CTMedical Descriptors:

*leukocyte function defect

*neutrophil

*systemic lupus erythematosus

drug dose

blood and hemopoietic system intravenous drug administration major clinical study therapy joint *methylprednisolone *prednisone cytochalasin b

ANSWER 34 OF 36 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN L15

[Methodological and clinical problems of leukocyte TΙ transfusions].

DIE METHODISCHE UND KLINISCHE PROBLEMATIK DER LEUKOZYTEN TRANSFUSION.

Deutsche Medizinische Wochenschrift, (1975) 100/15 (839-844). SO CODEN: DMWOAX

. . acute leukemia. Correspondingly there has been an increase in the AB percentage of patients with serious infectious complications. Only recently have leukocyte concentrates been available in some

centers in an attempt to reduce these infectious complications. Several models of **blood** cell separators, based on the centrifugal principle, are available. With these devices approximately 1-2 x 1010 granulocytes can be harvested. . . shown these cells to function essentially normally. It has been shown that HLA identical leukocytes have the best survival following **transfusion**. In addition, however, it is important to test for leukoagglutination of donor leukocytes with recipient serum. Since the availability of **leukocyte** transfusions is presently limited, they should be used in those situations where they have been shown to be most beneficial. . . . potentially reversible or treatable disease including acute drug induced neutropenia, and marrow suppression during treatment of acute leukemia and malignant **lymphoma**. Studies performed thus far have suggested a beneficial effect of granulocyte transfusions. However, only planned, prospective and preferably randomized studies. .

CT Medical Descriptors:

- *HLA system
- *cancer
- *immunology
- *internal medicine
- *leukocyte

*leukocyte transfusion

*drug therapy
methodology
major clinical study
therapy
intravenous drug administration

- L15 ANSWER 35 OF 36 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
- TI WHY USE LEUKOCYTE-POOR BLOOD COMPONENTS IN 1995
- SO TRANSFUSION CLINIQUE ET BIOLOGIQUE, (1996) Vol. 3, No. 1, pp. 57-74.

ISSN: 1246-7820.

AB

During the last 15 years, the techniques to prepare leukocyte -poor cellular blood components greatly improved, as well as our knowledge about the role of leukocytes in many adverse effects of transfusion. These two facts favor the extension of indication of leukocyte-poor blood components.

Leukocytes in **blood** components may be detrimental to their storage, due to their metabolic needs and to their progressive lysis, leading to the release of cytokines.

Leukocytes are the exclusive vector in **blood** of CMV and HTLV viruses.

Leukocytes are a key element of the immune modifications induced by transfusion. HLA alloimmunization is favored by the transfusion of large quantities of leukocytes HLA different from the recipient whose immune functions are intact. Conversely, the risk of transfusion associated graft versus host disease is dependent of the transfusion of mature T lymphocytes sharing a partial identity with the recipient, and/or an immune deficient status of the recipient. Between these two extremes, many other effects related to the presence of leukocytes in cellular blood components, as are the transfusion effect observed in transplant recipients, the increased risk for bacterial infection after transfusion, the increased risk for turner recurrence or the reactivation of virus infections, remain to be fully understood.

Despite recent significant improvements, further studies, experimental

Despite recent significant improvements, further studies, experimental as well as clinical, will be needed to expand the indications of leukocyte-poor blood components.

- ST Author Keywords: **BLOOD** COMPONENTS; LEUKOCYTE-POOR IMMUNE MODULATION BY **TRANSFUSION**
- STP KeyWords Plus (R): FEBRILE **TRANSFUSION** REACTIONS; CYTOMEGALO-VIRUS INFECTION; WHITE CELL-REDUCTION; VERSUS-HOST DISEASE; COLORECTAL-CANCER RECURRENCE; HUMAN-IMMUNODEFICIENCY-VIRUS; BONE-MARROW

TRANSPLANTATION; YERSINIA-ENTEROCOLITICA; RED-CELLS; RANDOMIZED TRIAL

- L15 ANSWER 36 OF 36 TOXCENTER COPYRIGHT 2003 ACS on STN
- TI Graft-versus-tumor induction with donor **leukocyte** infusions as primary therapy for patients with malignancies
- SO JOURNAL OF CLINICAL ONCOLOGY, (1999 Apr) 17 (4) 1234. Journal Code: 8309333. ISSN: 0732-183X.
- PURPOSE: Histocompatible allogeneic donor leukocyte infusions AB (DLIs) were administered as primary cancer therapy in a phase I trial to determine (1) whether mixed chimerism could be detected without a prior allogeneic transplantation, (2) the toxicity of primary DLI, and (3) whether a graft-versus-tumor (GVT) reaction could be observed. PATIENTS AND METHODS: Eighteen patients were studied. Patients received interferon alfa-2b for a minimum of. . . was determined using polymerase chain reaction amplification of donor and host-specific DNA polymorphisms. RESULTS: Donor cells were detected in the blood in 14 of 16 assessable patients within 1 hour of DLI. Chimerism detectable 4 weeks after DLI was observed in four patients, and five patients were not assessable. Prior autologous transplantation was associated with late chimerism (P = .0014). Acute graft -versus-host disease (GVHD) occurred in four of 16 assessable patients (grade 1, two patients; grade 2, one patient; grade 4, one.

CT . . . Graft vs Host Disease: IM, immunology

*Graft vs Tumor Effect: IM, immunology

Immunotherapy, Adoptive

Interferon Alfa-2b: TU, therapeutic use

*Leukocyte Transfusion

Middle Age

Neoplasms: IM, immunology

*Neoplasms: TH, therapy

Polymerase Chain Reaction

Remission Induction

Tissue Donors

Transplantation, Homologous

Treatment Outcome

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ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS on STN
L1
RN
     66-97-7 REGISTRY
     7H-Furo[3,2-g][1]benzopyran-7-one (8CI, 9CI) (CA INDEX NAME)
CN
OTHER CA INDEX NAMES:
     Furocoumarin (6CI)
CN
OTHER NAMES:
     2-Propenoic acid, 3-(6-hydroxy-5-benzofuranyl)-, .delta.-lactone
CN
     6,7-Furanocoumarin
CN
     Ficusin
CN
     Furo [2', 3':7,6] coumarin
CN.
     Furo[4',5':6,7]coumarin
CN
     NSC 404562
CN
     Psoralen
CN
     Psoralene
CN
     3D CONCORD
FS
     C11 H6 O3
MF
     COM
CI
                  ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
LC
     STN Files:
       BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
       CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, HSDB*, IFICDB,
       IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, NAPRALERT, NIOSHTIC, PROMT, RTECS*,
       SPECINFO, TOXCENTER, USPAT2, USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:
                     EINECS**
         (**Enter CHEMLIST File for up-to-date regulatory information)
```

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1933 REFERENCES IN FILE CA (1937 TO DATE)
575 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1934 REFERENCES IN FILE CAPLUS (1937 TO DATE)
31 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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ANSWER 51 OF 51 USPATFULL on STN
L16
       89:38952 USPATFULL
AN
       Purified hemoglobin solutions and method for making same
ΤI
       Estep, Timothy N., Lindenhurst, IL, United States
IN
       Baxter International Inc., Deerfield, IL, United States (U.S.
PΑ
       corporation)
                                                                     < - -
       US 4831012
                               19890516
PΙ
       US 1988-151842
                               19880203 (7)
ΑI
       Continuation-in-part of Ser. No. US 1985-747477, filed on 21 Jun 1985,
RLI
       now abandoned And a continuation-in-part of Ser. No. US 1984-592633,
       filed on 23 Mar 1984, now abandoned
DT
       Utility
       Granted
FS
       Primary Examiner: Rosen, Sam
EXNAM
       Flattery, Paul C., Hunter, Marjorie D., Bates, Sarah E.
       Number of Claims: 38
CLMN
       Exemplary Claim: 1
ECL
       3 Drawing Figure(s); 2 Drawing Page(s)
DRWN
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       US 4831012
                               19890516
SUMM
       Another problem associated with the infusion of blood
       or products derived from blood is the risk of transmission of
       viral contamination. Various prospective studies have shown that the
       incidence of posttransfusion hepatitis in recipients of hepatitis B
       surface antigen negative blood collected from volunteer donors
       ranges from 4 to 14 percent (Blum and Vyas, Haematologia, (1982), 15:
       153-173). There is also. . . Acquired Immunodeficiency Syndrome
       (variously called HTLV-III, LAV or HIV), cytomegalovirus, Epstein-Barr
       virus or HTLV-I, the putative causative agent for adult T
       cell lymphoma leukemia. Products derived from animal
       blood are also at risk since such blood may contain a
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number of pathogenic agents including the viruses causing rabies,

encephalitis, foot-and-mouth disease, etc.

L16 ANSWER 49 OF 51 USPATFULL on STN 92:31859 USPATFULL ANAdenosine derivatives with therapeutic activity ΤI Carson, Dennis A., Del Mar, CA, United States IN Carrera, Carlos J., San Diego, CA, United States The Scripps Research Institute, La Jolla, CA, United States (U.S. PA corporation) US 5106837 19920421 PΙ US 1990-460351 19900103 (7) ΑI Continuation-in-part of Ser. No. US 1989-323350, filed on 14 Mar 1989, RLInow abandoned And a continuation-in-part of Ser. No. US 1988-169618, filed on 16 Mar 1988, now abandoned which is a continuation-in-part of Ser. No. US 1986-825215, filed on 3 Feb 1986, now abandoned Utility DT FS Granted Primary Examiner: Brown, Johnnie R.; Assistant Examiner: Crane, L. Eric EXNAM Dressler, Goldsmith, Shore, Sutker & Milnamow, Ltd. LREP Number of Claims: 4 CLMN ECL Exemplary Claim: 1 7 Drawing Figure(s); 7 Drawing Page(s) DRWN LN.CNT 1401 CAS INDEXING IS AVAILABLE FOR THIS PATENT. US 5106837 19920421 . . graph showing the results of a study of the cytotoxicity of DRWD 2-chlorodeoxyadenosine (CdA) toward three cell types in the peripheral blood of eight cutaneous T-cell lymphoma patients A continuous intravenous infusion of CdA (0.1 mg/ml in isotonic saline) was administered to each patient at a dosage of 0.1 mg/kg per day, with the patients receiving therapy for seven days. Blood samples were removed daily and cell counts performed, with averaged values being shown. Graph symbols are as follows: .quadrature.=monocytes, +=neutrophils. Eight cutaneous T-cell lymphoma patients DETD were administered continuous intravenous infusion of a composition containing 2-chlorodeoxyadenosine at a dosage of 0.1 mg/kg of body weight per day in isotonic saline. Blood samples were obtained daily and the number of viable cells present were enumerated

daily for seven days after treatment.

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L16 ANSWER 46 OF 51 USPATFULL on STN
       95:54300 USPATFULL
AN
       Therapeutic and diagnostic methods using leukocyte surface antigens
ΤI
       Rittershaus, Charles W., Malden, MA, United States
IN
       Tian, Wei-Tao, Allston, MA, United States
       Kung, Patrick C., Lexington, MA, United States
       T Cell Diagnostics, Inc., Woburn, MA, United States (U.S. corporation)
PA
       US 5426029
                               19950620
PΙ
ΑI
       US 1990-610494
                               19901107 (7)
       Continuation-in-part of Ser. No. US 1989-434398, filed on 9 Nov 1989,
RLI
       now patented, Pat. No. US 5292636 which is a continuation-in-part of
       Ser. No. US 1988-254551, filed on 6 Oct 1988, now abandoned which is a
       continuation-in-part of Ser. No. US 1987-20819, filed on 2 Mar 1987, now
       patented, Pat. No. US 5006459 which is a continuation-in-part of Ser.
       No. US 1986-846230, filed on 31 Mar 1986, now abandoned
       Utility
DT
FS
       Granted
EXNAM Primary Examiner: Saunders, David
       Pennie & Edmonds
LREP
       Number of Claims: 18
CLMN
       Exemplary Claim: 1
ECL
DRWN
       17 Drawing Figure(s); 12 Drawing Page(s)
LN.CNT 4142
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
                                                                     <--
       US 5426029
                               19950620
                              THE PRESENT
DETD
INVENTION
I. Infectious Diseases Induced by virus
Herpesvirus
Cytomegalovirus
Epstein-Barr Virus
HTLV-I
HTLV-III/LAV/HIV (AIDS)
II. Cancer
B or T cell leukemia
HTLV-I- associated adult T cell leukemia
B or T cell lymphoma
Burkitt's lymphoma
Hairy cell leukemia
Sezary syndrome
Hodgkin's disease
Chronic lymphocytic leukemia
Non-Hodgkin's lymphoma
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Hodgkin's disease
Chronic lymphocytic leukemia
Non-Hodgkin's lymphoma
B-cell acute lymphoblastic leukemia
Solid tumors
III. Autoinmune Diseases
Rheumatoid arthritis
Diabetes
Multiple sclerosis
Systemic lupus erythematosis
IV Organ Allograft Rejection

Systemic lupus erythematosis
IV. Organ Allograft Rejection
V. Red Blood Cell Diseases
Autoimmune hemolytic anemia

Transfusion

Paraxismal nocturnal hemaglobinurea Familial Mediterranean fever